

Umbelliferae in Japan III

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In this paper four genera of Umbelliferae, *Angelica*, *Ostericum*, *Heracleum* and *Daucus* are treated. It is shown that *Angelica* sect. *Acutiloae* with eight species is an endemic section to Japan.

(Continued from J. Jpn. Bot. 76: 275–287, 2001)

Key words: Japan, taxonomy, Umbelliferae

27. *Angelica* L.

L. Sp. Pl.: 250 (1753).

A. Petals darkpurple (white in *A. decursiva* f. *albiflora*); leaves simply ternate, leaflets broadly ovate, deeply lobed or parted, with irregular or double teeth; carpels with broad lateral wings of ca. 1 mm in width (Sect. 1. *Decursivae*).

B. Leaflets thickly membranaceous, segments acute at apex, irregularly toothed; petiolules winged; petals narrowly ovate1. *A. decursiva*

B. Leaflets thinly membranaceous, segments acuminate at apex, doubly toothed; petiolules not winged; petals broadly ovate....2. *A. cryptotaeniifolia*

A. Petals white or white tinged with purple; leaves pinnate or twice- to thrice-ternate (sometimes simply ternate in *A. edulis*).

C. Fruits elliptic or broadly elliptic, generally wider than 3 mm.

D. Plant 2–5 m tall; leaf-sheath much inflated, villous outside; umbels with 60–80 rays (Sect. 2. *Angelophyllum*)3. *A. ursina*.

D. Plants 0.4–2 m tall; leaf-sheath much or scarcely inflate, glabrous outside; umbels with 10–60 rays.

E. Dorsal ribs of mesocarp separate,

intervals between ribs blackish, conspicuous (Sect.3. *Anisopleura*).

F. Leaves once or twice ternately lobed, leaflets orbicular-ovate, cordate or truncate at base, deeply 3-lobed: fruits narrowly elliptic, subacute at apex, lateral wings ca. 1 mm in width.....

.....4. *A. edulis*

F. Leaves twice or thrice ternately pinnate-lobed, ultimate segments ovate to lanceolate, acute to broadly cuneate at base; fruits elliptic, rounded or emarginata at apex, lateral wings more than 1 mm in width.

G. Umbels with 30–60 rays.

H. Leaf-sheath slightly inflate, lanceolate in outline.

I. Leaflets oblong-lanceolate or lanceolate, acuminate at apex, with many small teeth, teeth acute to acuminate at apex; lateral wings of fruits ca. 1.5 mm in width

.....5. *A. genuflexa*

I. Leaflets ovate to oblong-ovate, acute to acuminate at apex, with 2–9 teeth, teeth obtuse or acute at apex; lateral wings of fruits 1–1.2 mm in width

.....6. *A. minamitanii*

H. Leaf-sheath much inflate, ovate to

- broadly ovate in outline.
- J. Leaves pubescent beneath; fruits with 2–4 oil-tubes in each interval between ribs, 4–8 oil-tubes in commissure
.....7. *A. pubescens*
- J. Leaves glabrous or sparsely pubescent on nerves beneath; fruits with one oil-tube in each interval between ribs, 2–4 oil-tubes in commissure.....
.....8. *A. sachalinensis*
- G. Umbels with 10–30 (-40) rays.
- K. Inland plants; leaves membranaceous, not lustrous above; umbellets with or without bracteoles.
- L. Plants large, 1–2 m tall; petioles much inflate; leaflets generally with simple teeth; rays of an umbel regular.....
.....9. *A. dahurica*
- L. Plants 0.2–1 m tall; petioles slightly inflate; rays of an umbel irregular.
- M. Leaflets puberulent on nerves on both surfaces, rarely glabrous on nerves beneath; rachis of inflorescence and peduncles puberulent.....
.....10. *A. hakonensis*
- M. Leaflets glabrous on both surfaces; rachis of inflorescence and peduncles glabrous.....11. *A. inaequalis*
- K. Seashore plants; leaves thinly chartaceous or thickly membranaceous, lustrous above; umbellets usually with bracteoles.
- N. Plants with yellow milky juice; fruits oblong, ca. 10 mm long, 5 mm wide
.....12. *A. keiskei*
- N. Plant with colorless milky juice; fruits elliptic, 6–8 mm long, 4–5 mm wide
.....13. *A. japonica*
- E. Dorsal ribs of mesocarpe approximate, intervals between ribs very narrow or inconspicuous (Sect. 4. *Angelica*).
- O. Leaves puberulent on nerves above, lateral leaflets broadly ovate to ovate, broadly cuneate to truncate at base; pedicels papillary puberulent
.....14. *A. polymorpha*
- O. Leaves glabrous on nerves above, lateral leaflets narrowly ovate to cuneate at base; pedicels puberulent.....
.....15. *A. shinanomontana*
- C. Fruits narrowly elliptic or elliptic, narrower than 3 mm wide.
- P. Leaves simply pinnate or once ternately pinnate; fruits 2.5–3 mm long, lateral wings 0.5 mm in width (Sect. 5. *Cartilagineae*).....
.....16. *A. cartilagino-marginata*
- P. Leaves twice or thrice ternately pinnate; fruits 4–6 mm long, lateral wings 0.5–1 mm in width (Sect. 6. *Acutilobae*).
- Q. Stems pubescent, especially on nodes; radical and lower cauline leaves twice-ternately pinnate, ultimate segments ovate to oblong-lanceolate
.....17. *A. saxicola*
- Q. Stems glabrous; radical and lower cauline leaves twice or thrice ternately pinnate, ultimate segments broadly lanceolate to linear-lanceolate.
- R. Mature fruits elliptic, rounded or truncate at base.
- S. Petioles glabrous.
- T. Leaves glabrous on midrib above.....
.....18. *A. acutiloba*
- T. Leaves puberulent on midrib above
.....19. *A. ubatakensis*
- S. Petioles puberulent on nodes.
- X. Leaves ovate to lanceolate, acuminate at apex, puberulent on midrib above
.....20. *A. pseudoshikokiana*
- X. Leaves lanceolate to narrowly lanceolate, attenuate-acuminate at apex, glabrous on midrib above
.....21. *A. frucijuga*
- R. Mature fruits oblong-ovate, cordate and auriculate at base.
- Y. Upper surface of leaves lustrous, puberulent on midrib.....
.....22. *A. tenuisecta*
- Y. Upper surface of leaves not lustrous, glabrous on midrib.

Z. Fruits oblong-ovate, shallowly cordate and slightly auriculate at base; leaves deeply acute minute-serrate23. *A. shikokiana*

Z. Fruits ovate, cordate and distinctly auriculate at base; leaves acuminate-serrate24. *A. yakusimensis*

Sect. 1. **Decursivae** (Wolff) Kitag. in J. Jpn. Bot. **12**: 243 (1936).

Pimpinella sect. *Tragoselinum* (Mill.) DC. subsect. *Decursivae* Wolff in Engler, Pfl.-reich IV, Ht. **90**: 287 (1927).

1. *Angelica decursiva* (Miq.) Franch. & Sav., Enum. Pl. Jap. **1**: 187 (1875); H. Hara, Enum. Sperm. Jap. **3**: 294 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 96, f. 48 (1958); Schischk., Fl. URSS **17**: 27 (1974); C. Yuan, Fl. Reip. Popul. Sinic. **55** (3): 28, f. 11 (1979); H. Ohba in K. Iwats. & al., Fl. Jap. **IIc**: 291 (1999),

Porphyrascias decursiva Miq. In Ann. Mus. Bot. Lugd.-Bat. **3**: 62 (1867).

Selinum melanotilingia Boiss. in Herb. Boiss. ser. 2, **3**: 956 (1903).

Peucedanum decursivum (Miq.) Maxim. in Bull. Acad. Sci. St.-Petersb. **31**: 52 (1886).

Peucedanum polyphyroscias (Miq.) Makino in Bot. Mag. Tokyo **18**: 65 (1904).

Peucedanum melanotilingia (Boiss.) Boiss. In Herb. Boiss. ser. 2, **8**: 642 (1908).
ノダケ

Japan: Honshu (westward from Iwate and Akita Prefs.), Shikoku and Kyushu. In meadows; lowlands to 1500 m.

Distr.: Japan, Korea, Manchuria, N. to S. China, Taiwan and Vietnam.

Note: The white flowered form has been named f. *albiflora* (Maxim.) Nakai (Fl. Koreana **1**: 268, 1909).

2. *Angelica cryptotaeniifolia* Kitag. in J. Jpn. Bot. **42**: 211 (1967); H. Ohba in K. Iwats. & al., Fl. Jap. **IIc**: 295 (1999).

Angelica gigas auct. non Nakai: Koidz. in Act. Phytotax. Geobot. **1**: 25 (1932); H. Hara, Enum. Sperm. Jap. **3**: 295 (1954), pro parte; Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 98 t. 49 (1958), pro parte.

Angelica gigas Nakai var. *minor* Momiy. in Mise. Res. Inst. Natur. Resources **65**: 23 (1965).

var. **cryptotaeniifolia**.

ミヤマノダケ, イシズチノダケ

Distr.: Shikoku, In subalpine meadows or edges of subalpine *Abies* forests; 1600–1800. Endemic.

var. **kiushiana** Yamazaki in J. Jpn. Bot. **71**: 120 (1996).

Angelica gigas auct. non Nakai: Koidz. in Act. Phytotax. Geobot. **1**: 25 (1932); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 98, t. 49 (1958), pro parte, excl. Shikoku and Korea.

ツクシノダケ

Distr. Kyushu. In deciduous forests, 1300–1500 m. Endemic.

Note: Var. *kiushiana* resembles *A. gigas* Nakai in Korea and Manchuria, but differs from the latter by the smaller plants, ca. 1 m tall, stems less than 1 cm in diam. and adult leaves have puberulent hairs on nerves of both surfaces.

Key to the varieties of *Angelica cryptotaeniifolia*

A. Mature fruits elliptic, 4–5 mm long, 2.5 mm wide, lateral wings 0.5 mm wide.....var. *cryptotaeniifolia*

A. Mature fruits broadly elliptic, 5–6 mm long, 3–4 mm wide, lateral wings 1–1.5 mm wide.....var. *kiushiana*

Sect. 2. **Angelophyllum** (Rupr.) Drude in Engler & Prantl, Nat. Pfl.-famil. III, **8**: 220 (1898).

3. *Angelica ursina* (Rupr.) Maxim. in Bull. Acad. Sci. St.-Petersb. **22**: 258 (1876); H. Hara, Enum. Sperm. Jap. **3**: 299 (1954);

Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 110, f. 56 (1958); Schischk. in Fl. URSS **17**: 24 (1974); H. Ohba in K. Iwats. & al. ed., Fl. Jap. **IIc**: 299 (1999).

Angelophyllum ursinum Rupr. in Beitr. Pfl. Reich. **9**: 8 (1895).

Angelica ursina (Rupr.) Benth. & Hook. f., Gen. Pl. **1**: 916 (1867) in observ., nom. nud.
エゾニウ

Japan: S. Kuriles, Hokkaido and N. Honshu. In meadows near the sea.

Distr. Japan, the Kuriles, Sakhalin and Kamtchatica.

Sect. 3. *Anisopleura* Maxim., Prim. Fl. Amur.: 127 (1859).

4. *Angelica edulis* Miyabe ex Yabe, Rev. Umbell. Jap.: 77, t. 55 (1902); H. Hara, Enum. Sperm. Jap. **3**: 295 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 121, f. 63 (1958); H. Ohba in K. Iwats. & al. ed., Fl. Jap. **IIc**: 298 (1999).

Angelica edulis Miyabe in Trans. Asiat. Soc. Jap. **21**: 205 (1893), nom. nud.

Angelica edulis Miyabe ex Yabe f. *triloba* Koidz. in Bot. Mag. Tokyo **31**: 33 (1917).

アマニウ

Distr. Hokkaido, N. to C. Honshu, W. Honshu (Mt. Daisen, Tottori Pref.) and Shikoku (Mt. Ishizuchi, Ehime Pref.). In mountain meadows more or less wet places; 600–1800 m. Endemic.

5. *Angelica genuflexa* Nutt. ex Torrey & Gray, Fl. N. Amer. **1**: 620 (1840); H. Hara, Enum. Sperm. Jap. **3**: 295 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 113, f. 59 (1958); H. Ohba in K. Iwats. & al. ed., Fl. Jap. **IIc**: 297 (1999).

Angelica refracta F. Schmidt, Reis. Sachal.: 138 (1868); Schischk. in Fl. URSS **17**: 17 (1974).

Angelica yabeana Makino in Iinuma, Somoku-dusetsu, ed. Makino, **1**: 347, f. 248 (1907); Makino in Bot. Mag. Tokyo **22**: 174

(1908).

Angelica refracta F. Schmidt var. *yabeana* (Makino) Koidz. in Bot. Mag. Tokyo **31**: 32 (1917).

Angelica refracta F. Schmidt. var. *multinervis* Koidz. in Bot. Mag. Tokyo **31**: 32 (1917).

Angelica genuflexa Nutt. subsp. *refracta* (F. Schmidt) Hiroe in Act. Phytotax. Geobot. **12**: 175 (1950).

オオバセンキュウ

Japan: S. Kuriles, Hokkaido and N. to C. Honshu (northward from Fukui and Nagano Prefs.). Wet meadows along streams; 700–2000 m in Honshu, lowland to 1800 m in Hokkaido.

Distr.: Japan, Korea (Mt. Kumgan), Sakhalin, the Kuriles, Kamchatka, Aleutian Is., Alaska and western N. America.

6. *Angelica minamitanii* Yamazaki, sp. nov. [Fig. 1]

Angelica sp. Minamitani in Bull. Mus. Cultur. Inst. Miyazaki Pref. **20**: 69–75, fig. 4, photo. 2 (1979).

Herba perennis, 1.5–2 m elata. Rhizoma crassa, radicis simplicis et radiculis multas emittentia. Caulis robustus, teres, ad ultra basi 2 cm in diam., glabra. Folia alterna; petiolus vaginifer, vagina late lanceolata, glabra; lamina ambitu deltoidea, 5–50 cm longa et lata, 2–3-ternato-pinnata, herbacea, rachide petiolulisque glabra; foliolium terminali ovatum vel oblongo-ovatum, 3–7 cm longum, 1.5–4 cm latum, apice acutum vel acuminatum, basi cunatum, in petiolum attenuatum; foliolium laterali oblongum vel ovatum, sessile vel breviter petiolulum, 2–4 cm longum, 1–2 cm latum; folia omnia 2–9-serrata, serris acutis vel obtusis, utrinque supra nervos punctato-puberulus. Inflorescentia terminalis, in anthesi 7–12 cm, in fructu 15–20 cm in diam., irregulariter 25–50-umbellata; phylla involucri nulla vel 1, subulata, 1.5–2 cm longa, margine albo-hyalina, dense punctato-puberula; pedunculi

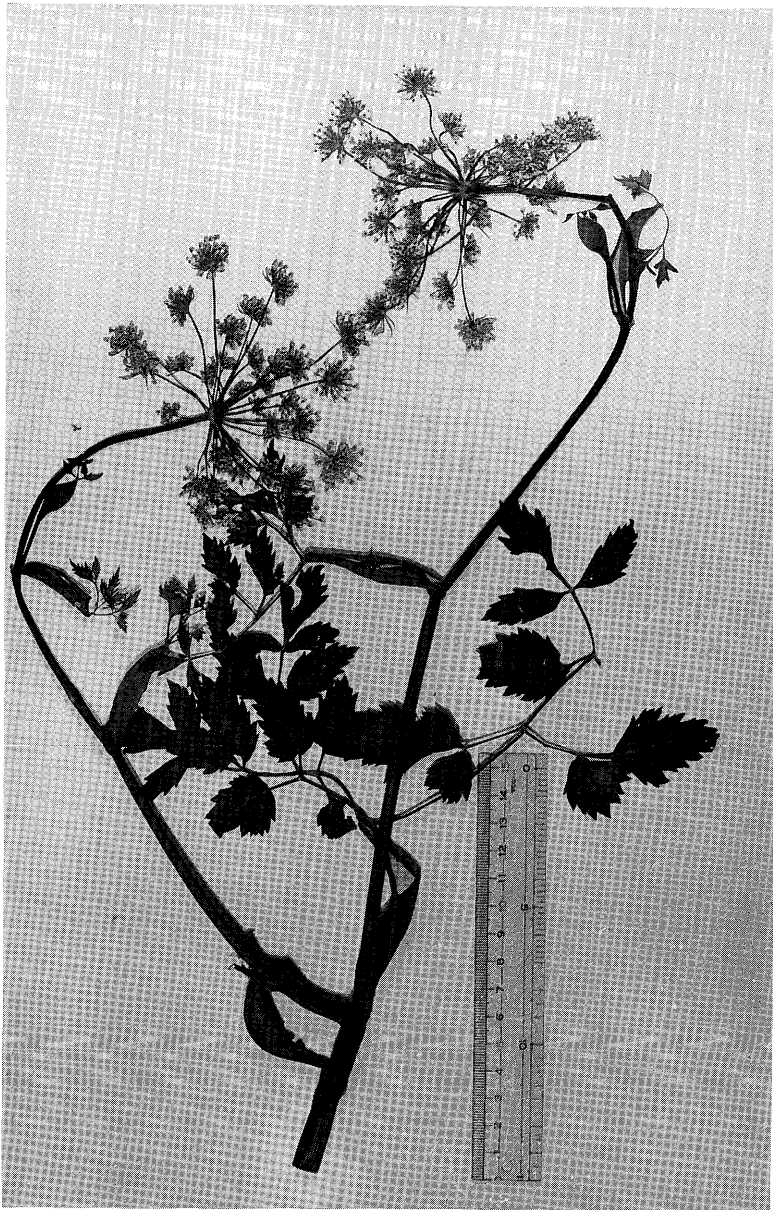


Fig. 1. *Angelica minamitanii* Yamazaki. Type.

in anthesi 1.5–6 cm longi, in fructu 5–10 cm longi, dense punctato-puberuli; umbellae multifloriferae, 4–6-bracteatae, bractis subulatis, 4–7 mm longis, punctato-puberulis, pedicelis in anthesi 2–6 mm longis, in fructu 10–20 cm longis, dense

punctato-puberulis. Calyx empanulatus, ca. 1 mm longus, dense punctato-puberulus. Petala 5, alba, orbiculata, apice recurvato-emarginta, ca. 2 mm longa, glabra. Stamina 5, ca. 4 mm longa. Stylopodium conicum, rugulosum. Styli 2, filiformi, ca. 3 mm longi,

capitato-stigmatosi. *Mericalpa depressa*, elliptica, apice rotundata vel leviter emarginata, 6–7 mm longa, 4–5 mm lata, stramineo-fusca; juga dorsalia 3, crasse elevata-nervosa, inter juga atro-fusca, lateralia 2-alata, alis 1–1.2 mm latis. Valliculae dorsales 1-vittatae. Commissura planata, 2-vittata. Carpophorum e basi partitum, filiforme.

ヒュウガセンキウ

Hab. Kyushu. Pref. Miyazaki, Suki-mura 須木村, Shimokukuse 下九々瀬, edge of forest, 450 m (T. Minamitani, Aug. 24, 1996, no. B-T-052625, **Typus** TI), Sukimura, Kuseinokodani 九瀬猪谷 380 m (T. Minamitani, Nov. 16, 1996, no. B-T-053102, TI), Kobayashi City 小林市, Kiuragi 木浦木, 400 m (T. Minamitani, Aug. 24, 1996, no. B-T-052619, TI, Nov. 16, 1996, no. B-T-053134, TI).

7. *Angelica pubescens* Maxim. in Bull. Acad. Sci. St.-Petersb. **24**: 34 (1877); H. Hara, Enum. Sperm. Jap. **3**: 298 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 107, f. 55 (1958); Yamazaki in J. Jpn. Bot. **64**: 90 (1989); H. Ohba in K. Iwats. & al., ed., Fl. Jap. **IIc**: 299 (1999).

Angelica myriostachys Koidz. in Bot. Mag. Tokyo **33**: 122 (1919).

Angelica schishiudo Koidz. Fl. Symb. Orient. Asiat.: 45 (1930).

var. **pubescens**.

シシウド

Distr.: Honshu (westward from Iwate Pref., generally on the Pacific Ocean side of N. to C. Honshu), Shikoku and Kyushu. In edges of forests and meadows; lowlands to 1500 m. Endemic.

var. **matsumurae** (Yabe) Ohwi, Fl. Jap. ed. Engl.: 684 (1965).

Angelica matsumurae Yabe, Rev. Umbel. Jap.: 85, t. 44 (1902).

ミヤマシシウド

Distr.: C. Honshu (Tochigi, Gunma, Yamanashi and Nara Prefs.). In mountain or

subalpine meadows; 1600–2600 m.

Key to the varieties of *Angelica pubescens*

- A. Ultimate segments of leaves oblong-obovate, acute or shortly acuminate at apex.....var. *pubescens*
- A. Ultimate segments of leaves lanceolate to broadly lanceolate, acuminate at apex.....var. *matsumurae*

8. *Angelica sachalinensis* Maxim., Prim. Fl. Amur.: 127 (1859); Schischk., Fl. URSS **17**: (1974); Yamazaki in J. Jpn. Bot. **61**: 243 (1986).

Angelica anomala auct. non Ave-Lall.: F. Schmidt, Reis. Sachal.: 137 (1886); Yabe, Rev. Umbel. Jap.: 74, t. 3, f. 48 (1902); H. Hara, Enum. Sperm. Jap. **3**: 292 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 110, f. 57 (1958).

Angelica amurensis Schischk., Fl. URSS **17**: 352, f. 8, 7–8 (1951); C. Yuan, Fl. Reip. Popul. Sinic. **55**(3): 21, f. 8, 1–6 (1992).

Angelica anomala Ave-Lall. subsp. *sachalinensis* (Maxim.) H. Ohba in K. Iwats. & al. ed., Fl. Jap. **IIc**: 299 (1999).

var. **sachalinensis**.

エゾノヨロイグサ

Japan: S. Kuriles, Hokkaido and N. Honshu (northward from Tochigi Pref., generally in the Pacific Ocean side). In meadows on hills or mountains; lowlands to 1100 m.

Distr.: Japan, Korea, Sachalin, Amur, Manchuria and Mongolia.

f. **pubescens** (Yamazaki) Yamazaki, comb. nov.

Angelica sachalinensis Maxim. var. *pubescens* Yamazaki in J. Jpn. Bot. **61**: 243 (1986).

Angelica anomala Ave-Lall. subsp. *sachalinensis* (Maxim.) H. Ohba f. *pubescens* (Yamazaki) H. Ohba in K. Iwats. & al. ed., Fl. Jap. **IIc**: 298 (1999).

ケエゾノヨロイグサ

Distr.: Hokkaido and C. Honshu (Tochigi Pref.).

f. **saninensis** Yamazaki in J. Jpn. Bot. **64**: 90 (1989).

サンインヨロイグサ

Distr.: W. Honshu (between Kyoto Pref. and Okayama Pref.).

var. **kawakamii**.

Angelica kawakamii Koidz., Fl. Symb. Orient. Asiat.: 45 (1930).

Angelica anomala Ave-Lall. var. *kawakamii* (Koidz.) Kitag. in J. Jpn. Bot. **38**: 109 (1963).

エゾノコヨロイグサ

Distr.: Hokkaido (Rishiri Is. and Rebun Is.).

var. **glabra** (Koidz.) Yamazaki in J. Jpn. Bot. **61**: 243 (1986).

Angelica matsumurae Yabe var. *glabra* Koidz. in Bot. Mag. Tokyo **31**: 136 (1917).

Angelica pubescens Maxim. f. *glabra* (Koidz.) Murata in Act. Phytotax. Geobot. **20**: 196 (1962).

Angelica pubescens Maxim. var. *matsumurae* (Yabe) Ohwi, f. *muratae* Ohwi, Fl. Jap. ed. 2: 1000 (1975).

Angelica anomala Ave-Lall. subsp. *sachalinensis* (Maxim.) H. Ohba var. *glabra* (Koidz.) H. Ohba in K. Iwats. & al. ed., Fl. Jap. **IIc**: 300 (1999).

ミチノクヨロイグサ

Distr.: N. to C. Honshu (generally on the Japan Sea side from Akita Pref. to Fukui Pref.).

Key to the varieties and forms of *Angelica sachalinensis*

A. Upper surface of leaves puberulent on midrib, lower surface glabrous or sparsely puberulent, pale glaucous or pale green.

B. Leaves oblong-ovate to lanceolate; fruits 6–7 mm long, 5–6 mm wide

.....var. *sachalinensis*

C. Lower surface of leaves pale glaucous.

D. Lower surface of leaves glabrous.....

.....f. *sachalinensis*

D. Lower surface of leaves sparsely pu-

bescent on nerves.....f. *pubescens*

C. Lower surface of leaves pale green, not glaucous.....f. *saninensis*

B. Leaves narrowly lanceolate; fruits 4–5 mm long, 3–4 mm wide.....

.....var. *kawakamii*

A. Leaves glabrous on both surfaces, lower surface pale glaucous.....var. *glabra*

9. *Angelica dahurica* (Fisch.) Benth. & Hook.f. ex Franch. & Sav., Enum. Pl. Jap. **1**: 187 (1875); H. Hara, Enum. Sp. Jap. **3**: 294 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 118, f. 61 (1958); H. Ohba in K. Iwats. & al. ed., Fl. Jap. **IIc**: 298 (1999).

Callisace dahurica Fisch. In Hoffm., Gen. Umbel. ed. 2: 170, f. 18 (1816).

Thysselinum dahuricum (Fisch.) Spreng., Syst. Veg. **1**: 895 (1825).

Angelica pubescens Maxim. var. *glabra* Yabe, Rev. Umbel. Jap.: 81 (1902).

ヨロイグサ

Japan: W. Honshu (westward from Okayama Pref.) and N. Kyushu. In wet meadows; 500–700 m.

Distr.: Japan, Korea, Manchuria, N. China, E. Siberia and Dahuria.

10. *Angelica hakonensis* Maxim. in Bull. Acad. Sci. St.-Petersb. **19**: 277 (1873); H. Hara, Enum. Sp. Jap. **3**: 296 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 122, f. 64 (1958); H. Ohba in K. Iwats. & al. ed., Fl. Jap. **IIc**: 296 (1999).

Angelica nikoensis Yabe, Rev. Umbel. Jap.: 84, t. 2, f. 6 (1902).

Angelica hakonensis Maxim. var. *nikoensis* (Yabe) Hara, Enum. Sp. Jap. **3**: 296 (1954).

Angelica hakonensis Maxim. f. *nikoensis* (Yabe) Kitam. in Act. Phytotax. Geobot. **20**: 196 (1962).

イワニンジン, ノダケモドキ

Distr.: C. Honshu (the Pacific Ocean side, between Gunma Pref. and Aichi Pref.). In

deciduous forests on mountains; 700–1600 m.

11. *Angelica inaequalis* Maxim. in Bull. Acad. Sci. St.-Petersb. **19**: 184 (1873); H.Hara, Enum. Sperm. Jap. **3**: 296 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 105, f.54 (1958); H.Ohba in K.Iwats. & al. ed., Fl. Jap. **IIc**: 296 (1999).

Archangelica inaequalis Maxim. ex Fanch. & Sav., Enum. Pl. Jap. **1**: 188 (1875), nom. nud.

ハナビゼリ

Distr.: C. to W. Honshu (westward from Shizuoka and Nagano Prefs.), Shikoku and Kyushu. In forests; 400–1300 m. Endemic.

12. *Angelica keiskei* (Miq.) Koidz., Fl. Symb. Orient. Asiat.: 20 (1930); H.Hara, Enum. Sperm. Jap. **3**: 297 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 124, f. 65 (1958); H.Ohba in K.Iwats. & al. ed.: Fl. Jap. **IIc**: 298 (1999).

Archangelica ? *keiskei* Miq. in Ann. Mus. Bot. Lugd.-Bat. **3**: 62 (1867).

Angelica utilis Makino ex Yabe, Rev. Umbel. Jap.: 79, t.3, f.51 (1902).

アシタバ

Distr.: C. Honshu (the Pacific Ocean side from Chiba Pref. to Wakayama Pref.). Seashores. Endemic.

13. *Angelica japonica* A.Gray, Bot. Jap.: 390 (1859), pro parte, excl. specim. ex Cape Soya; Maxim. in Bull. Acad. Sci. St.-Petersb. **22**: 258 (1876); Hara in J. Jap. Bot. **15**: 770 (1939); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 116, f.60 (1958); H. Ohba in K. Iwats. & al. ed., **IIc**: 297 (1999).

Angelica kiusiana Maxim. in Bull. Acad. Sct. St.-Petersb. **18**: 284 (1873).

var. *japonica*.

ハマウド

Japan: C. to W. Honshu (the Pacific Ocean side, westward from Ibaraki Pref.), Shikoku, Kyushu and the Ryukyus (north-

ward from Okinoerabu Is. and Amami Is.). Seashores.

Distr.: Japan and Korea.

var. *boninensis* (Tuyama) Yamazaki in J. Jpn. Bot. **65**: 233 (1990).

Angelica boninensis Tuyama in Bot. Mag. Tokyo **49**: 451, f. 13 (1935).

Peucedanum boninense (Tuyama) Tuyama in Bot. Mag. Tokyo **50**: 430 (1936).

ムニンハマウド

Distr.: Isls. Bonin and the Ryukyus (Isl. Daito). Seashores. Endemic

var. *hirsutiflora* (Liu, Chao & Chuang) Yamazaki in J. Jpn. Bot. **65**: 222 (1990).

Angelica hirsutiflora Liu, Chao & Chuang in Quat. J. Taiwan Mus. **14**: 19, f. 5 (1962); in Exper. Forest. Nat. Taiwan Univ. **26**: 5, t. 2 (1961).

ナンゴクハマウド

Japan: The Ryukyus (southward from Is. Okinawa). Seashores.

Distr.: The Ryukyus and Taiwan.

Key to the varieties of *Angelica japonica*

A. Pedicels unilaterally pubescent.

B. Teeth of lower leaves acute at apex; lateral wings of fruits thinvar. *japonica*

B. Teeth of lower leaves obtuse or subacute, at apex; lateral wings of fruits thickvar. *boninensis*

A. Pedicels throughout pubescent; teeth of lower leaves obtuse or subacute at apex; lateral wings of fruits thickvar. *hirsutiflora*

Sect. 4. *Angelica*.

Sect. *Euangelica* DC., Prod. **4**: 167 (1830).

14. *Angelica polymorpha* Maxim. in Bull. Acad. Sci. St.-Petersb. **19**: 185 (1873); H.Hara, Enum. Sperm. Jap. **3**: 298 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 118, f. 62 (1958); C.Yuan, Fl. Reip. Popul. Sinic. **55**(3): 49, f. 16, 5-7 (1992);

H.Ohba in K.Iwats. & al., ed., Fl. Jap., **IIc**: 296 (1999).

Rompelia polymorpha (Maxim.) Koso-pol. in Bull. Soc. Nat. Mosc., n.s. **29**: 125 (1916).

シラネセンキュウ

Japan: Honshu (westward from Yamagata Pref. on the Japan Sea side and from Iwate Pref. on the Pacific Ocean side), Shikoku and Kyushu. Edge of forests, more or less wet places, lowlands to 2400 m.

Distr.: Japan, Korea, Manchuria and N. to C. China.

f. lineariloba Yamazaki, f. nov.

ホソバシラネセンキュウ

Folia multipartita, lobis lineari-lanceolatis.

Hab.: Shikoku, Ehime Pref., Kamiukiana-gun, Odamiyama (Y. Momiyama, Jul. 23, 1957, no 156, Typus TI).

15. *Angelica shinanomontana* Kitag. in J. Jpn. Bot. **43**: 77, f.1-a, 2 (1968); Yamazaki in J. Jpn. Bot. **65**: 154, f.1-3 (1990); H.Ohba in K.Iwats. & al. ed., **IIc**: 293 (1999).

シナノノダケ

Distr.: C. Honshu (Nagano Pref.). In deciduous forests beside the pond, more or less wet places; ca. 1300 m. Endemic.

Sect. 5. **Cartilagneae** Yamazaki, sect. nov.

Folia ternate-pinnatisecta. Fructus parvus, alis lateralibus angustis, ca. 0.5 mm latis.

Typus. *Angelica cartilagino-marginata* (Makino) Nakai.

16. *Angelica cartilagino-marginata* (Makino) Nakai, Fl. Koreana **1**: 269 (1909); H.Hara, Enum. Sperm.Jap. **3**: 293 (1954); H.Ohba in K.Iwats. & al. ed., Fl. Jap. **IIc**: 291 (1999).

Peucedanum cartilagino-marginata Makino ex Yabe, Rev. Umbel. Jap.: 100, t.3, f.60 (1902); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 131, f.70 (1958).

Pimpinella cartilagino-marginata (Maki-

no) Wolff in Nat. Pfl.-reich, IV, 228, Ht. **90**: 287 (1927).

var. **cartilagino-marginata**.

ヒメノダケ

Distr.: N. Kyushu. In meadows on mountains. Endemic as a variety.

var. **matsumurae** (Boiss.) Kitag. in J. Jpn. Bot. **12**: 244 (1936); C.Yuan, Fl. Reip. Popul. Sinic. **55**(3): 16, f. 5, 1-4 (1979).

Sium ?matsumurae Boiss. in Bull. Herb. Boiss. ser.2, **3**: 954 (1903).

Angelica crucifolia Kom. in Act. Hort. Peterop. **25**: 170 (1905).

Peucedanum crucifolium (Kom.) Boiss. in Bull. Herb. Boiss. Ser. 2, **8**: 643 (1908).

Peucedanum makinoi Nakai in Matsum., Icon. Pl. Koishik. **1**: 131, t. 66 (1913).

Angelica confusa Nakai in Matsum., Icon. Pl. Koishik. **1**: 133, t. 67 (1913).

Angelica boisseuana Nakai in Bot. Mag. Tokyo **27**: 32 (1913); in Matsum., Icon. Pl. Koishik. **27**: 107, t. 138 (1915).

キビノダケ, コウライノダケ

Japan: W. Honshu (Kinki to Chugoku Distr.), Shikoku and C. Kyushu.

Distr.: Japan, Korea and Manchuria.

Key to the varieties of *Angelica cartilagino-marginata*

A. Leaflets irregularly lobed or fid

.....var. *cartilagino-marginata*

A. Leaflets serratevar. *matsumurae*

Sect. 6. **Acutilobi** Yamazaki, sect. nov.

Planta minuta vel moderata, 0.1-1 m elata. Folia plerumque bi-vel tri-ternata. Sepala obsoleta. Fructi elliptici vel ovati, alis lateralibus angustis 0.5-1 mm latis.

Typus. *Angelica acutiloba* (Siebold & Zucc.) Kitag.

This section is consisted of eight species. All species grows on rocks and endemic to Japan. The allied species have not been found in the continental Asia and America.

17. *Angelica saxicola* Makino ex Yabe, Rev. Umbel. Jap.: 84 (1902); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 124, f. 66 (1958); Kitag. in J. Jpn. Bot. **43**: 3, pl. 2 right (1968); H. Ohba in K. Iwats. & al. ed., Fl. Jsp. **IIC**: 293 (1999).

Peucedanum saxicolum (Makino) Makino et Nemoto, Fl. Jap. ed.1: 461 (1925); H. Hara, Enum. Sperm. Jap. **3**: 313 (1954).

var. **saxicola**.

イシズチボウフウ

Distr.: Shikoku (Kochi and Ehime Prefs.). On rocks in mountains; 1700–1900 m. Endemic.

var. **yoshinagae** (Makino) Murata & Yamanaka in Act. Phytotax. Geobot. **18**: 27 (1959); H. Ohba in K. Iwats. & al. ed., Fl. Jap. **IIC**: 294 (1999).

Angelica yoshinagae Makino in J. Jpn. Bot. **3**: 5 (1926); Kitag. in J. Jpn. Bot. **43**: 3, pl. 2 left (1968).

Angelica shikokiana Makino var. *yoshinagae* (Makino) H. Hara, Enum. Sperm. Jap. **3**: 298 (1954).

トサボウフウ

Distr.: Shikoku (Mt. Tosayama, Kochi Pref. and Mt. Ishidate, Tokushima Pref.). On limestone, 1600 m. Endemic.

Key to the varieties of *Angelica saxicola*

- A. Ultimate leaflets narrowly ovate to oblong-lanceolate, 1.5–3 cm long, 0.8–1.5 cm wide, deeply toothed.....var. *saxicola*
- A. Ultimate leaflets narrowly ovate to broadly ovate, 4–7 cm long, 2–3 cm wide, shallowly toothed.....var. *yoshinagae*

18. *Angelica acutiloba* (Siebold & Zucc.) Kitag. in Bot. Mag. Tokyo **51**: 658 (1937); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 105, f. 53 (1958); Kawano & Watanabe in J. Jpn. Bot. **38**: 89 (1963).

Ligusticum acutilobum Siebold & Zucc. in Abh. Akad. Muench. **4-2**: 203 (1845).

Ligusticum japonicum Maxim. in Bull. Acad. Sci. St.-Petresb. **19**: 270 (1873).

var. **iwatensis** (Kitag.) Hikino in Act. Phytotax. Geobot. **17**: 84 (1958).

Angelica iwatensis Kitag. in Bot. Mag. Tokyo **51**: 659 (1937).

Angelica acutiloba (Siebold & Zucc.) Kitag. subsp. *iwatensis* (Kitag.) Kitag. in J. Jpn. Bot. **42**: 97 (1967).

f. **iwatensis**.

イワテトウキ

Distr.: Hokkaido and N. to C. Honshu (northward from Shiga Pref.). On rocks in mountains; 800–1600 m. Endemic.

f. **lanceolata** (Tatew.) Watanabe & Kawano in J. Jpn. Bot. **38**: 90 (1963) in subsp. *lineariloba*.

Ligusticum linearilobum Koidz. var. *lanceolatum* Tatew. in J. Sapporo Soc. Agr. & Forest. **26**: 44 (1934).

Angelica stenoloba Kitag. f. *lanceolata* (Tatewaki) H. Hara, Enum. Sperm. Jap. **3**: 298 (1954).

Angelica acutiloba (Siebold & Zucc.) Kitag. var. *lanceolata* (Tatew.) Ohwi, Fl. Jap. ed. Engl.: 682 (1965), pro parte.

トカチトウキ

Distr.: Hokkaido (Hidaka mountains).

var. **acutiloba**.

ヤマトトウキ, ニホントウキ

Distr.: This variety has been cultivated for medical purpose and has not known in the wild.

var. **lineariloba** (Koidz.) Hikino in Act. Phytotax. Geobot. **17**: 84 (1958).

Ligusticum linearilobum Koidz. in Bot. Mag. Tokyo **31**: 31 (1917).

Angelica stenoloba Kitag. in Bot. Mag. Tokyo **51**: 659 (1937); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 102, f. 52 (1958).

Angelica acutiloba (Siebold & Zucc.) Kitag. subsp. *lineariloba* (Koidz.) Kitag. in Act. Phytotax. Geobot. **20**: 195 (1962).

ホソバトウキ

Distr.: Hokkaido (Mt. Yubari). On rocks, 1500 m.

Key to the varieties and forms in *Angelica acutiloba*

- A. Leaf-segments ovate to linear-lanceolate, 0.3–4 cm wide, many toothed.
- B. Leaf-segments ovate to linear-lanceolate, with acute to acuminate teethvar. *iwatensis*
- C. Leaf-segments ovate to narrowly lanceolate, 3–10 cm long, 0.8–4 cm wide.....f. *iwatensis*
- C. Leaf-segments linear-lanceolate, 2–15 cm long, 0.3–1.5 cm widef. *lanceolata*
- B. Leaf-segments lanceolate to narrowly lanceolate, with several lobed and acuminate deeply lobed, teeth 3–6 cm long, 0.4–2 cm wide.....var. *acutiloba*
- A. Leaf-segments linear, 1–3 cm long, 1.5–2 mm wide, coarsely minute-toothedvar. *lineariloba*

19. *Angelica ubatakensis* (Makino) Kitag. in Bot. Mag. Tokyo **51**: 659 (1937); H.Hara, Enum. Sperm. Jap. **3**: 299 (1954); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 126, f. 68 (1958); H.Ohba in K.Iwats. & al. ed., Fl. Jap. **IIc**: 292 (1999).

Cnidium ubatakense Makino in Bot. Mag. Tokyo **25**: 396 (1911), nom. nud.

Peucedanum ubatakense Makino in Bot. Mag. Tokyo **28**: 290 (1914).

var. *ubatakensis*.

ウバタケニンジン

Distr. Shikoku (Ehime and Kochi Prefs.) and Kyushu (Oita and Miyazaki Prefs.). On rocks of mountains; 1500–1800 m. Endemic.

var. *valida* Kitag. in J. Jap. Bot. **48**: 236 (1973).

Angelica mukabakiensis Yamazaki in J. Jpn. Bot. **69**: 329 (1994).

オオウバタケニンジン, ムカバキニンジン

Distr.: Kyushu (Miyazaki Pref.), on rocks. Endemic.

Key to the varieties of *Angelica ubatakensis*

- A. Ultimate segments of leaves linear to linear-lanceolate, 1–3 cm long, 1–3 mm widevar. *ubatakensis*
- A. Ultimate segments of leaves lanceolate to narrowly lanceolate, 2–7 cm long, 5–15 mm widevar. *valida*

20. *Angelica pseudoshikokiana* Kitag. in J. Jpn. Bot. **39**: 359 (1964); 431, f.1 and pl.1 (1968); H.Ohba in K.Iwats. & al. ed., Fl. Jap. **IIc**: 295 (1999).

Angelica saxicola Makino var. *taneyoshiana* Momiy. in Misc. Rep. Inst. Nation. Resources **65**: 22 (1965).

ツクシトウキ

Distr. Kyushu (Nagasaki Pref.). On rocks; 400–500 m. Endemic.

21. *Angelica furcijuga* Kitag. in J. Jpn. Bot. **46**: 286, f.2, Pl.14–15 (1971); in J. Jpn. Bot. **48**: 235 (1973).

Angelica tenuisecta (Makino) Makino var. *furcijuga* (Kitag.) H.Ohba in K.Iwats. & al. ed., Fl. Jap. **IIc**: 295 (1999).

ヒュウガトウキ

Distr. Kyushu (Miyazaki and Oita Prefs.). On rocks in low altitudes. Endemic.

22. *Angelica tenuisecta* (Makino) Makino in J. Jpn. Bot. **3**: 44 (1926); Murata in Act. Phytotx. Geobot. **18**: 27, with distr. map (1959); H.Ohba in K.Iwats. & al. ed., Fl. Jap. **IIc**: 295 (1999), pro parte., excl. var.

Angelica shikokiana Makino var. *tenuisecta* Makino in Iinuma, Somokudzusetsu, ed. Makino, **1**: 372, t. 267 (1907); H.Hara, Enum. Sperm. Jap. **3**: 298 (1954).

カワゼンゴ

Distr.: Honshu (Mie and Wakayama Prefs.). On wet rocks along the river. Endemic.

23. *Angelica shikokina* Makino ex Yabe, Rev. Umbel. Jap.: 63, t.2, f. 45 (1902); H. Hara, Enum Sperm. Jap. 3: 298 (1954), excl. var. *tenuisecta* Makino; Hiroe & Constance in Univ. Calif. Publ. Bot. 30: 113 f.58 (1958), excl. syn. *Angelica shikokiiana* var. *tenuisecta* Makino and *A. yoshinagae* Makino; Murata in Act. Phytotax. Geobot. 18: 28, with distr. map. (1959); Kitag. in J. Jpn. Bot. 43: 4 (1968); H. Ohba in K. Iwats. & al., ed., Fl. Jap. IIc: 294 (1999).

Peucedanum mayebararum Koidz. in Bot. Mag. Tokyo 39: 5 (1925).

Angelica mayebarana (Koidz.) Kitag. in Rep. Inst. Sci. Res. Manch. 2: 279 (1938); in J. Jpn. Bot. 43: 6 (1968).

イヌトウキ

Distr.: Honshu (Kii Peninsula), Shikoku and Kyushu. On rocks: 200–400 m.

24. *Angelica yakusimensis* H. Hara in J. Jpn. Bot. 31: 187, f.1 (1956); Kitag. in J. Jpn. Bot. 43: 4 (1968); Hiroe & Constance in Univ. Calif. Publ. Bot. 30: 126, f. 67 (1958); H. Ohba in K. Iwats. & al. ed., Fl. Jap. IIc: 294 (1999).

Angelica shikokiana Makino subsp. *yakusimensis* (H. Hara) Kitam. in Act. Phytotax. Geobot. 20: 196 (1962).

ヤクシマノダケ

Distr.: Kyushu, Is. Yakushima. In meadows on stony slopes along stream. 700–1000 m. Endemic.

26. *Ostericum* Hoffman

Hoffmann, Gen. Umbell.: 162 (1814)

A. Rhizome short, stout; stems stout, 50–120 cm tall; leaves twice ternately pinnate; leaflets ovate, 2.5–7 cm long, 1.5–6 cm wide.....1. *O. sieboldii*

A. Rhizome slender, creeping; stems slender 20–70 cm tall; leaves thrice ternately pinnate; leaflets ovate to lanceolate, once or twice cleft, lobes linear-lanceolata 3–10 mm long, 1–3 mm wide....2. *O. florentii*

1. *Ostericum sieboldii* (Miq.) Nakai in J. Jpn. Bot. 18: 219 (1942); H. Hara, Enum. Sperm. Jap. 3: 316 (1954); C. Yuan, Fl. Reip. Popul. Sinic. 55(3): 69 (1992); H. Ohba in K. Iwats. & al. ed., Fl. Jap. IIc: 289 (1999).

Peucedanum ?sieboldii Miq. in Ann. Mus. Bot. Lugd.-Bat. 3: 63 (1867).

Angelica miqueliana Maxim. in Bull. Acad. Sci. St.-Petersdb. 19: 276 (1873); Hiroe & Constance in Univ. Calif. Publ. Bot. 30: 102, f.51 (1958).

Peucedanum miquelianum (Maxim.) Wolff in Fedd. Rep. Spec. Nov. 21: 248 (1925), in nota.

Ligusticum nipponicum Wolff in Fedd. Rep. Spec. Nov. 21: 245 (1925).

Ostericum miquelianum (Maxim.) Kitag. in J. Jpn. Bot. 12: 236 (1936).

ヤマゼリ

Japan: Honshu, Shikoku and Kyushu. Edges of deciduous forests; 200–1700 m.

Distr.: Japan, Korea, Manchuria, N. to C. China and Mongolia.

Note: A form in which the stems and leaves are sparsely to densely clothed with pubescent hairs, has been named f. *hirtulum* (Hiyama) H. Hara (Enum. Sperm. Jap. 3: 317, 1954).

2. *Ostericum florentii* (Franch. & Sav. ex Maxim.) Kitag. in J. Jpn. Bot. 12: 237 (1936), in adnota: H. Hara, Enum. Sperm. Jap. 3: 316 (1954); H. Ohba in K. Iwats. & al. ed., Fl. Jap. IIc: 290 (1999).

Angelica florentii Franch. & Sav. ex Maxim. in Bull. Acad. Sci. St.-Petersb. 19: 274 (1873); Hiroe & Constance in Univ. Calif. Publ. Bot. 30: 100, f. 50 (1958), pro parte, excl. syn. *Ostericum maximowiczii* (F. Schmidt ex Maxim.) Kitag.

ミヤマニンジン

Distr.: C. Honshu (Tochigi, Gunma, Kanagawa, Nagano, Yamanashi and Shizuoka Prefs.). Edges of mountain forests, 800–2400 m. Endemic.

Subtribe 2. **Tordyliinae** Drude.

Drude in Engler & Prantl. Nat. Pfl.-fam. anzenfam. III, 8: 238 (1898).

27. **Heracleum** L.

L., Sp. Pl.: 29 (1753).

- A. Lower cauline leaves 3–5-foliolate; upper leaflets 10–20 cm long and wide, shallowly to deeply 1–2-lobed, lobes acute, acute-serrate...1. *H. moellendorffii*
- A. Lower cauline leaves 3 (rarely 5)-foliolate; upper leaflets 20–30 cm long and wide, deeply 2–3-lobed, lobes acuminate-serrate2. *H. lanatum*

1. **Heracleum moellendorffii** Hance in J. Bot. 16: 12 (1878); Ohwi, Fl. Jap. ed. 2: 1003 (1975); T.Wang, in Fl. Reip. Popul. Sinic. 55(3): 55 (1992).

Heracleum nipponicum Kitag. in Rep. Inst. Sci. Res. Manchur. 2: 274 (1938).

Heracleum inperpastum Koidz. in Act. Phytotax. Geobot. 8: 53 (1939).

Heracleum barbatum Ledeb. subsp. *moellendorffii* (Hance) Hiroe in Act. Phytotax. Geobot. 14: 4 (1949).

Heracleum lanatum Mich. subsp. *moellendorffii* (Hance) H.Hara, Enum. Sperm. Jap. 3: 310 (1954).

Heracleum sphondylium L. var. *nipponicum* (Kitag.) H.Ohba in J. Jpn. Bot. 69: 119 (1994).

var. **moellendorffii**.

ハナウド

Japan: S. Hokkaido, Honshu, Shikoku and Kyushu. In meadows more or less wet places; lowlands to 1000 m.

Distr.: Japan, Korea, Manchuria and N. to C. China.

var. **tsurugisanense** (Honda) Ohwi in Bull. Sci. Mus. Tokyo no. 33: 81 (1953).

Hertacleum tsurugisanense Honda in Bot. Mag. Tokyo 57: 108 (1943).

Heracleum barbatum Ledeb. subsp. *moellendorffii* (Hance) Hiroe var. *tsurugisanense* (Honda) Hiroe in Act.

Phytotax. Geobot. 14: 5 (1949).

Heracleum lanatum Mich. subsp. *moellendorffii* (Hance) H.Hara var. *tsurugisanense* (Honda) H.Hara, Enum. Sperm. Jap. 3: 311 (1954).

Heracleum sphondylium L. var. *tsurugisanense* (Honda) H.Ohba in J. Jpn. Bot. 69: 119 (1994).

ツルギハナウド

Distr.: Shikoku (Mt. Tsurugi, Mt. Ishidate, Mt. Tenguzuka and Mt. Ishizuichi). In mountain to subalpine meadows; 1300–1900 m.

Key to the varieties of *Heracleum moellendorffii*

- A. Terminal leaflets 10–20 cm long and wide, sparsely pubescent above, densely pubescent beneath, lobes acute at apex; fruits 7–10 mm long, 5–7 mm wide
.....var. *moellendorffii*
- A. Terminal leaflets 8–13 cm long and wide, glabrous above, shortly pubescent beneath, especially on nerves, lobes acuminate at apex; fruits 6–7 mm long, 4–5 mm widevar. *tsurugisanense*

2. **Heracleum lanatum** Michaux., Fl. Bor. Amer. 1: 166 (1803).

subsp. **asiaticum** Hiroe in Act. Phytotax. Geobot. 14: 4 (1949).

Heracleum dulce auct. non Fischer: H.Hara in Bot. Mag. Tokyo 50: 419 (1936); Kitaga. in J. Jpn. Bot. 50: 87 (1975).

Heracleum lanatum Michx. var. *asiaticum* (Hiroe) H.Hara in J. Fac. Sci. Univ. Tokyo, sect. 3, Bot. 4-2: 92 (1952).

Heracleum lanatum auct. non Michx.: Hiroe & Constance in Univ. Calif. Publ. Bot. 30: 139, f. 74 (1958), pro parte, excl. syn. *H. moellendorffii* Hance.

Heracleum sphondylium L. subsp. *montanum*. auct. non Schl. ex Gaud.: H.Ohba in J. Jpn. Bot. 69: 119 (1994).

var. **asiaticum**.

オオハナウド

Japan: S. Kuriles, Hokkaido and N. to C. Honshu (northward from Hyogo Pref.). In mountain to subalpine meadows, more or less wet places; lowlands to 2400 m.

Distr.: Japan and Sakhalin.

Note: Subsp. *lanatum* differs from subsp. *asiaticum* by the leaves covered with densely white hairs and looking like glaucous. This subspecies is distributed in Siberia, Kamchatka and northern regions of N. America. The rosy-flowered form has been named f. *rubriflorum* (H. Ohba) Yamazaki, comb. nov. (*H. sphondylium* L. subsp. *montanum* (Schl. ex Gaud.) Briq. f. *rubriflorum* H. Ohba in J. Jpn. Bot. **69**: 119, 1994). The form having the deeply bipinnate leaves with irregularly dissected lobes, has been named f. *dissectum* (H. Ohba) Yamazaki, comb. nov. (= *H. sphondylium* L. subsp. *montanum* (Schl. ex Gaud.) Briq. f. *dissectum* H. Ohba in J. Jpn. Bot. **69**: 119 (1994).

var. *akaishimontanum* (Koidz.) H. Hara, Enum. Sperm. Jap. **3**: 310 (1954), in subsp. *mollendorffii*.

Helacleum akaishimontanum Koidz. in Act. Phytotax. Geobot. **8**: 54 (1939); Hiroe & Constance in Univ. Calif. Publ. Bot. **30**: 142, f. 75 (1958).

Heracleum lanatum Michx. subsp. *akaishimontanum* (Koidz.) Kitam. in Act. Phytotax. Gebot. **20**: 196 (1962).

Heracleum moellendorffii Hance var.

akaishimontanum (Koidz.) Ohwi, Fl. Jap. ed. Engl.; 686 (1985).

Heracleum dulce Fisch. var. *akaishimontanum* (Koidz.) Kitag. in J. Jpn. Bot. **50**: 87 (1975).

Heracleum sphondylium L. var. *akaishimontanum* (Koidz.) H. Ohba in J. Jpn. Bot. **69**: 119 (1994).

ホソバハナウド

Distr.: C. Honshu (Akaishi mountain ranges). In mountain to alpine meadows; 1300–2700 m.

Key to the varieies of *Heracleum lanatum* subsp. *asiaticum*

- A. Leaflets broadly ovate or orbicular-ovate, ternately or pinnately cut into ovate lobes, lobes irregularly large-toothed var. *asiaticum*
- A. Leaflets ovate, ternately cut into lanceolate lobes, lobes regularly serrate-toothed var. *akaishimontanum*

Tribe Dauceae Drude

Drude in Engl. & Prantl. Nat. Pfl.-fam. III, **8**: 247 (1898),

Daucus L.

L., Sp. Pl.: 242 (1753).

Daucus carota L., Sp. Pl.: 242 (1753).

ノラニンジン

Distr.: A native of Mediterranean, naturalized in Japan.

山崎 敬：日本のセリ科植物 III

ここではシシウド属、ヤマゼリ属、ハナウド属、ニンジン属を扱った。シシウド属は種類が多く分類の難しい群である。節ごとに区別することで、種類の関係を示した。しかし、区別するために取り上げた特徴は微妙なもので、分類が難しいことは変わらない。このなかでヒメノダケ *Angelica cartilagino-marginata* (Makino) Nakai は、ときにカワラボウフウ属のものとして扱われることがあ

るが、果実の背面の稜がやや翼状に隆起するので、シシウド属のものとして扱うのが妥当だと思う。しかし他のシシウド属のものとはかなり異なるので、独立した節として扱った。薬用植物として知られるトウキ節は8種からなるが、日本独特の節で、大陸には類縁のある種類がない。

(165- 東京都中野区)